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Our company was founded based on an enthusiasm for Land Rover vehicles, and helping to fill a void in upgraded factory parts as well as no longer available accessories. Our goal is to provide a substantial upgrade to originally under-designed Series and Defender parts, and enable your Land Rover to enjoy many more years of use and enjoyment...both on- and off-road.

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Rubber Window Channel

Removable Door Top Installation Guide

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WARNING

The screws to be removed in step #2 can become seized over time or due to over-tightening during the original assembly. We strongly recommend soaking these screws with penetrating oil in the days leading up to the installation of our product.

Disassembly of the window frames
can be come very difficult if these screws break

We have created a video supplement
to this installation guide which can be seen at:

www.youtube.com/channel/UCV4dwmlNdyXqE-LG2Vf3ngw

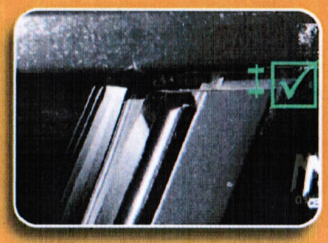
OR by searching
"Series-Defender Outfitters"
on YouTube.com

READ ALL INSTRUCTIONS FULLY BEFORE ATTEMPTING INSTALLATION

What is Included:	2 – 7ft long sections of rubber window channel 12 sealed rivets (plus spares) 3M® Scrubbing pad 3 fl oz bottle of Goo-Gone® Wooden width gauge disc #2 Pozidriv ACR bit
What you will need:	Power drill 1/8" metal drill bit POP rivet gun Needle-nose pliers Flat-head screwdriver Metal file (not required for all installations) Eye Protection Paper towels or rags Soap and water solution Household cleaner / degreaser Hammer Nail punch

BEFORE YOU BEGIN

Defender 90 door tops are assembled by hand leaving variations from vehicle to vehicle. One variation that can affect the function of this product is the space between the upper window frame and the aluminum glass pull which is press-fit to the front edge of the inside glass. For safe clearance, a minimum gap of 1/16" is required. Before removing the door tops and with the locking mechanism in the locked position, measure the space between the top of the aluminum glass pull and the upper window frame on each window (they're probably different!). If the required space is not available, the aluminum glass pull will need to be filed down to provide the proper clearance (see instruction #16)



Installing Rubber Window Channels

WARNING: Only cut and install one piece of rubber extrusion into one window frame channel at a time to ensure you have one continuous piece for each run.

FITTING TIPS

A. CORNERS: When installed the rubber extrusion should stop just before where the corner welds were ground at the factory. Do not install rubber extrusion all the way into the corners. The extrusion is designed to fit the main body of the channel and will not hold where the aluminum has been ground down. (figure A below)

B. BUMPER: When installed the rubber extrusion should butt up against the foam rubber bumper that is located at the front of the upper, inside window channel. (figure B below)

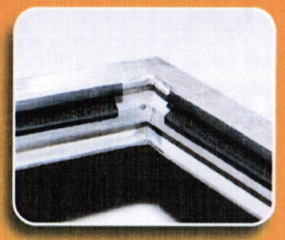
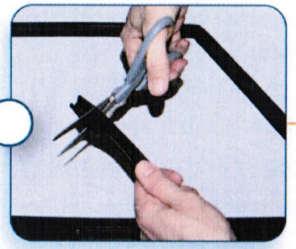


Figure A

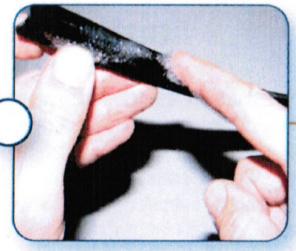
Figure B

11) Using a pair of scissors or snips, measure and cut a length of rubber extrusion to fit the respective window frame channel leaving a little extra to trim for the best fit.



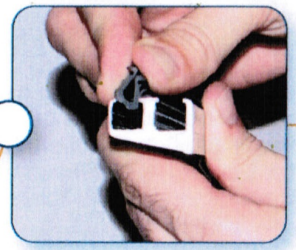
!!! IMPORTANT!!!

12) Apply liberal amounts of soapy water solution to the outer base and sides of the entire length of rubber extrusion being installed.

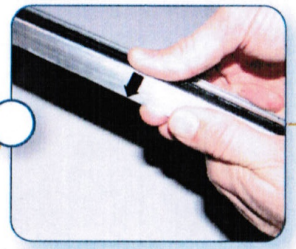


WARNING: DO NOT use oils, grease or silicone sprays to lubricate the rubber. These will remain in the channel and the rubber will not grip. Soap and water are used for lubrication here because the water will evaporate, leaving dry rubber to grip the frame. This provides a tight fit.

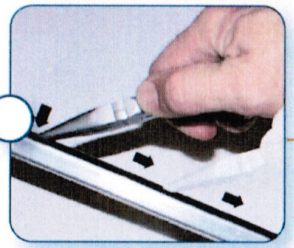
13) Tuck one corner of the base of the rubber extrusion into the window frame channel then work the remainder of the extrusion into the channel.



14) Press the rubber extrusion into the entire length of the window frame channel, working a few inches at time until the entire run is in place.
Seat the base of the extrusion deep into the channel by pressing down firmly with your thumbs.



15) Using needle-nose pliers and working 2-3 inches at a time, 'rake' the rubber extrusion into the window channel by applying firm downward pressure allowing the tapered shape of the pliers to exert outward pressure to seat the rubber in place.



NOTE: Due to the inconsistency of the lip on the aluminum frame, you may need to do this more than once in certain areas.

TIP

ENSURING PROPER FIT AND FUNCTION

To ensure the windows slide properly in their tracks, the rubber must be seated fully in each channel. When properly installed, the rubber will take on a perfectly straight line as in the sample on the right of figure A below. If there are sections where it is not straight, as in the left-hand sample of figure A, it means the underside tooth of the rubber extrusion is not seating under the lip of the aluminum frame as shown with the arrow in figure B. This is due to the inconsistency of the lip on the aluminum frame (Note the difference of the two lips of the same window frame in figure B.

This is easily corrected with a simple trick!

Using a flat-head screwdriver, apply diagonal downward pressure into the bottom corner of the rubber (figure C, 1) while 'prying' the upper flange over the lip of the frame (figure C, 2). Once the tooth is seated in that location, re-rake the area with the pliers. This product was designed with precise tolerances to ensure a tight fit. Depending on your window frames, certain areas may require more effort than others.

Figure A

Figure b

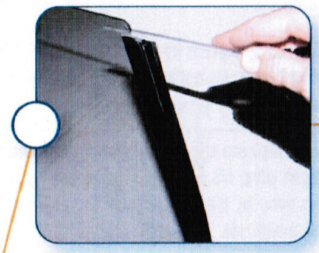
Figure C

Repeat Steps 11-15 until you have completed all four channels.

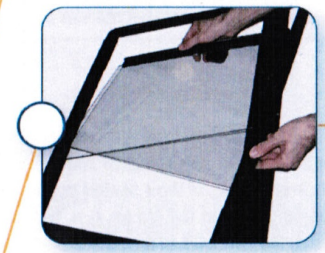
Not Required For All Installations

See "BERORE YOU BEGIN!" on page 1

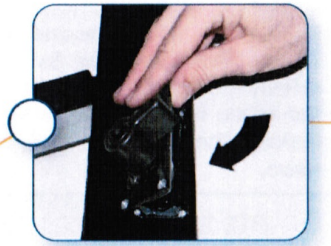
16) Using a metal file, file down the top of the aluminum glass pull on the front edge of the inside window glass so that you have a minimum clearance of 3/16" between the top of the pull and the upper horizontal channel of the window frame. Place top of glass into the channel of the upper window frame and push in as far as possible. If top of pull is touching the rubber extrusion, continue to file until you have the required clearance.



17) Replace window assembly back into frame assuring the window channel rail is fully slotted in place. Confirm that windows slide freely in their channels and make any adjustments using the technique in Step #15.



18) Replace window locking mechanism and leave in the unlocked position.



19) Align holes in the bottom of the window channel rail with the holes in the lower horizontal bar of the window frame. Replace two of the screws that were removed in Step #3 (one at each far end of the frame).

NOTE: DO NOT tighten fully. This is only to assure proper alignment before riveting.

20) a) Using a POP rivet gun, install the rivets at each end of the window channel rail.
b) With lock mechanism in the unlocked position, install the four rivets at the outer corners of the locking mechanism.

NOTE: Be sure to follow your POP rivet gun manufacturer's operating and safety procedures.

21) Replace the two remaining screws from step #3 and fully tighten all four screws in the bottom of the window channel rail.

22) Replace foam plugs in both lower inside bottom corners of window frame.

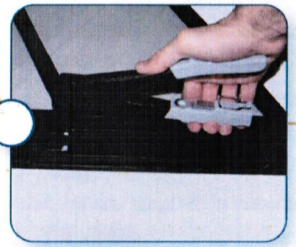
Repeat Steps 3-22 for second door top.

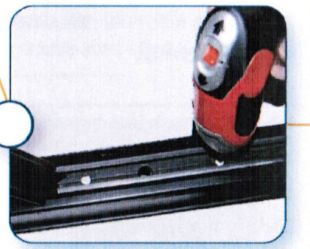
23) Reattach door tops to vehicle paying attention not to push/pull the rubber extrusions out of their seated positions while grabbing the frame. It is best to keep the windows in the closed position during this estep.

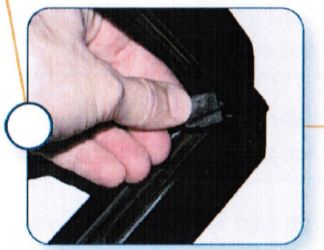
NOTE: Be sure not to excessively tighten the door tops to the vehicle's doors. This will cause the frame to warp and deflect making the windows hard to move.

FOR BEST RESULTS

Leave windows in the closed position overnight to allow the rubber to relax and conform to the new shape of the window channels. This will also leave plenty of time for the water to fully evaporate. The longer the rubber extrusions are in place, the more they 'weld' themselves to the window frame.







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WARRANTY

Series-Defender Outfitters Replacement Rubber Window Channel comes with a 1-year replacement warranty.

In the unlikely event your rubber window channel rips, tears, or is damaged in any way that prevents the windows from functioning properly, simply contact us at sdo@seriesdefender.com for an RMA# and return, postage-paid, the entire length that contains the damage. We will return to you a band new piece of the same length (plus extra to trim for best fit) and we will cover the shipping cost of the new piece (US Parcel Post only, including tracking number). Please provide a tracking number for the piece being returnecd as we cannot provide a replacement if we do not receive the damaged item. Please allow 7 days after we receive your item for processing.